ST

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,064	04/21/2004	Andreas Weichert	DEAV2003/0029 US NP	6253

5487 7590 02/09/2006

ROSS J. OEHLER
AVENTIS PHARMACEUTICALS INC.
ROUTE 202-206
MAIL CODE: D303A
BRIDGEWATER, NJ 08807

EXAMINER	
TRUONG, TAMTHOM NGO	

ART UNIT	PAPER NUMBER
1624	

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/829,064	WEICHERT ET AL.	
	Examiner	Art Unit	
	Tamthom N. Truong	1624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-7 and 9* is/are allowed.

6)☒ Claim(s) *10-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

FINAL ACTION

Applicant's amendment of 11-18-05 has been fully considered.

In claim 9, the deletion of "*thrombosis, peripheral artery occlusive syndrome*"and " *chronic glomerulonephritis, erectile dysfunction, ventricular arrhythmia, diabetes,..., or for the lowering of cardiovascular risk...*" has overcome the previous rejection of 112/1st paragraph (Scope of Enablement), and thus, that rejection is withdrawn for claim 9. However, new claims 10-19 recite those cancelled indications. Thus, the previous 112/1st rejection is now applicable to claims 10-19.

Claim 8 is cancelled. Claims 1-7 are pending along with new claims 10-19.

Claim Rejections - 35 USC § 112, First Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Scope of Enablement: Claims 10-19 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being **enabling** for a method of treating the following diseases:

cardiovascular diseases, stable or unstable angina pectoris, coronary heart disease, Prinzmetal angina, acute coronary syndrome, heart failure, myocardial infarction, stroke, endothelial dysfunction, atherosclerosis, endothel damage after PTCA, hypertension, essential hypertension, pulmonary hypertension, secondary hypertension, renovascular hypertension,

does **not** reasonably provide **enable**ment for a method of treating the following disease:

thrombosis, peripheral artery occlusive disease, restenosis, chronic glomerulonephritis, erectile dysfunction, ventricular arrhythmia, diabetes, diabetes complications, nephropathy, retinopathy, angiogenesis, asthma bronchiale, chronic renal failure, cirrhosis of liver, osteoporosis, restricted memory performance or a restricted ability to learn, lowering cardiovascular risk of posmenopausal women or after intake of a contraceptive.

The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

The following factors have been considered in the determination of an enabling disclosure:

(1) The breadth of the claims;

(2) The amount of direction or guidance presented;

(3) The state of the prior art;

(4) The relative skill of those in the art;

(5) The predictability or unpredictability of the art;

(6) The quantity of experimentation necessary;

[See ***Ex parte Forman***, 230 USPQ 546 (Bd. Pat. App. & Int., 1986); also ***In re Wands***, 858 F. 2d 731, 8 USPQ 2d 1400 (Fed. Cir. 1988)].

The breadth of the claims:

Claim 10 recites: "*A method for treating thrombosis...*" Said method includes the treatment of blood clot as well as many complications associated with it. Therefore, the scope of claim 10 is unduly broad.

Claim 11 recites: "*A method for treating peripheral artery occlusive disease...*" Said method includes various vascular disorders. Thus, the scope of claim 11 is also unduly broad.

Claim 12 recites: "*A method for treating diabetes or a diabetes complications...*" Said method includes both diabetes and complications such as: neuropathy, glaucoma, gangrene, etc. Thus, the scope of claim 12 is also unduly broad.

Claim 13 recites: "*A method for treating nephropathy or retinopathy...*", which is the treatment of two conditions related to the kidney and eyes. While the scope is not broad, the relationship of nephropathy and retinopathy cannot be perceived.

Claim 14 recites: "*A method for treating chronic glomerulonephritis...*", which is also a kidney disorder. Although not broad, such a use is not really substantiated.

Claim 15 recites: "*A method for treating chronic renal failure...*", which is a kidney disorder, and a complication of diabetes as well. Although not broad, such a use is not really substantiated.

Claim 16 recites: "*A method for treating osteoporosis...*", which is a treatment of a bone disorder that has no common etiology with all the other diseases. Again, such a use is not really substantiated.

Claim 17 recites: "*A method for treating restricted memory performance or a restricted ability to learn...*", which includes various types of dementia, senility, Alzheimer's disease, etc. Thus, the scope of claim 16 is unduly broad.

Claim 18 recites: "*A method for treating erectile dysfunction...*", which is a treatment of a disorder that has no common etiology with all the other diseases. Such a use is not really substantiated.

Claim 19 recites: "*A method for lowering cardiovascular risk of postmenopausal women or after intake of a contraceptive...*", which, in essence, recites a "preventive" therapy or a set of population. Although not broad, "preventive" therapy cannot really be substantiated because the duration of such a therapy is not clear.

The amount of direction or guidance presented:

In the specification, the *in-vitro* and *in-vivo* assays only provide evidence for the treatment of atherosclerosis and cardiovascular diseases or related disorders (e.g., various forms of hypertension or angina), and coronary disease only. The specification does not provide the following:

- Blood glucose reduction for the treatment of diabetes;
- Bone density for the treatment of osteoarthritis;
- Inhibition of abnormal cellular proliferation for the treatment of angiogenesis;
- Renal function for the treatment of chronic glomerulonephritis or chronic renal failure;
- Liver function for the treatment of cirrhosis; etc.

Thus, the specification does not provide sufficient enablement to guide one skilled in the art to use the claimed compounds in the treatment of various diseases claimed herein.

The state of the prior art:

As evident by the teaching of **Martin-Santamaria et. al.** (cited on IDS), the claimed tricyclic core possesses potent antitumor activity, and nothing else. Thus, the state of the art does not support the various treatments recited in the instant claims 10-19.

The relative skill of those in the art:

Even with the advanced training, the skilled clinician would have to engage in undue experimentation to establish data that would adequately support the use of the claimed compounds in the treatment of various unrelated diseases such as: cardiovascular diseases, diabetes, cirrhosis, asthma, angiogenesis, renal failure, etc. Such a task would require a tremendous amount of effort, time and resources.

The predictability or unpredictability of the art & The quantity of experimentation necessary:

The pharmaceutical art has been known for its unpredictability due to various conflicting pathways, or biological factors that are sometimes genetically unique to individuals. In the instant case, the specification only shows evidence that the claimed compounds can treat cardiovascular diseases and related disorders such as various forms of hypertension, and angina. However, said evidence does not adequately guide the skilled clinician in the treatment of diseases of different etiologies such as: diabetes, retinopathy, chronic renal failure, osteoarthritis, cirrhosis, asthma, etc. due to different underlying factors. Thus, with such a limited teaching, the skilled clinician would have to carry out undue experimentation to use the claimed compounds in the methods recited in claims 10-19.

Allowable Subject Matter

Claims 1-7 and 9 are allowable.

The following is a statement of reasons for the indication of allowable subject matter:

The closest reference, **Martin-Santamaria** (J. Org. Chem. 1999), discloses a compound that has been excluded by the proviso in claim 1. Furthermore, the reference does not disclose any activity for said compound, and therefore, there is no motivation for a prima facie case of obviousness.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamthom N. Truong whose telephone number is 571-272-0676. The examiner can normally be reached on M-F (9:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tamthom N. Truong
Examiner
Art Unit 1624

JAMES O. WILSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600

***
2-2-06